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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet 1 of 3

**Complete if Known**

Application Number	
Filing Date	11/26/2003
First Named Inventor	Rajeev Sharma
Art Unit	
Examiner Name	
Attorney Docket Number	AI-0015-UCO

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
/NB/		US- 4723212	Feb. 2, 1988	Mindrum et al.	364/401
/NB/		US- 4833308	May 23, 1989	Humble	235/383
/NB/		US- 4839507	Jun. 13, 1989	May	235/381
/NB/		US- 4896791	Jan. 30, 1990	Smith	221/7
/NB/		US- 4910672	Mar. 20, 1990	Off et al.	364/405
/NB/		US- 4949256	Aug. 14, 1990	Humble	364/401
/NB/		US- 4975960	Dec. 4, 1990	Petajan	381/43
/NB/		US- 5012522	Apr. 30, 1991	Lambert	382/2
/NB/		US- 5047614	Sep. 10, 1991	Bianco	235/385
/NB/		US- 5056019	Oct. 8, 1991	Schultz et al.	384/405
/NB/		US- 5173851	Dec. 22, 1992	Off et al.	364/401
/NB/		US- 5192854	Mar. 9, 1993	Counts	235/375
/NB/		US- 5227874	Jul. 13, 1993	Von Kohorn	358/84
/NB/		US- 5245533	Sep. 14, 1993	Marshall	364/401
/NB/		US- 5283731	Feb. 1, 1994	Lalonde et al.	364/401
/NB/		US- 5309355	May 3, 1994	Lockwood	364/401
/NB/		US- 5353218	Oct. 4, 1994	De Lapa et al.	364/401
/NB/		US- 5380991	Jan. 10, 1995	Valencia et al.	235/383
/NB/		US- 5420606	May 30, 1995	Begum et al.	345/156

FOREIGN PATENT DOCUMENTS						
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		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

Examiner Signature	/Nancy Bitar/	Date Considered	03/21/2007
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Sheet 2 of 3**U. S. PATENT DOCUMENTS**

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/NB/		US- 5459306	Oct. 17, 1995	Stein et al.	235/383
/NB/		US- 5500681	Mar. 19, 1996	Jones	348/473
/NB/		US- 5581064	Dec. 3, 1996	Riley et al.	235/383
/NB/		US- 5595264	Jan. 21, 1997	Trotta, Jr.	186/56
/NB/		US- 5612868	Mar. 18, 1997	Off et al.	364/214
/NB/		US- 5665953	Sep. 9, 1997	Mazzamuto et al.	235/383
/NB/		US- 5707680	Jan. 13, 1998	Moore	427/7
/NB/		US- 5708782	Jan. 13, 1998	Larson et al.	395/214
/NB/		US- 5710886	Jan. 20, 1988	Christensen et al.	395/214
/NB/		US- 5715325	Feb. 3, 1998	Bang et al.	382/118
/NB/		US- 5822735	Oct. 13, 1998	De Lapa et al.	705/14
/NB/		US- 5905246	May 18, 1999	Fajkowski	235/375
/NB/		US- 6184926	Feb. 6, 2001	Khosravi et al.	348/239
/NB/		US- 6278979	Aug. 21, 2001	Williams	705/14
/NB/		US- 6298329	Oct. 2, 2001	Walker et al.	705/14
/NB/		US- 6301370	Oct. 9, 2001	Steffens et al.	382/103
/NB/		US- 6404900	Jun. 11, 2002	Qian et al.	382/103
/NB/		US- 6408286	Jun. 18, 2002	Heiden	705/408
/NB/		US- 60/369279	Apr. 2, 2002	Sharma	

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/NB/		US- 60/399246	Jul. 29,2002	Sharma	
/NB/		US- 60/402817	Aug. 12,2002	Sharma	
/NB/		US- 60/409435	Sep. 10,2002	Sharma	
/NB/		US- 60/421717	Oct. 28,2002	Sharma	
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Sheet	1	of	1
		Attorney Docket Number	AI-0015-UCO

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
/NB/		N. KRAHNSTOEVER, S. KETTEBEKOV, M. YEASIN, & R. SHARMA, "iMap: A Real-Time Framework for Natural Multimodal Interaction with Large Screen Displays," Dept of Comp. Science and Eng. Technical Report CSE-02-010, Pennsylvania State University, May 2002	
/NB/		E. OSUNA, R. FREUND, & F. GIROSI, " Training Support Vector Machines: An Application to Face Detection," Proc. IEEE Conf. Computer Vision and Pattern Recognition, pp. 103-136, 1997	
/NB/		C. RIDDER, O. MUNKELT, & H. KIRCHNER, "Adaptive Background Estimation and Foreground Detection using Kalman-Filtering", In Proceedings of International Conference on recent Advances in Mechatronics, ICRAM 95, UNESCO Chair on Mechatronics, 193-199, 1995	
/NB/		H. ROWLEY, S. BALUJA, AND T KANADE, "Neural Network-Based Detection," IEEE Trans. Pattern Analysis and Machine Intelligence, vol. 20, no. 1, pp 23-38, Jan. 1998	
/NB/		R. SHARMA, V. I. PAVLOVIC, AND T.S. HUANG, "Toward Multimodal Human-Computer Interface." Proceedings of the IEEE (Special Issue on Multimedia Computing and Communication) 86(5): 853-869, May 1998	
/NB/		C. STAUFFER & W.E.L. GRIMSON. Adaptive Background Mixture Models for Real-Time Tracking. In computer Vision and Pattern Recognition, vol. 2, pp 246-253, June 1999	
/NB/		M.H. YANG, D.J. KRIEGMAN, & N. AHUJA, "Detecting Faces in Images: A Survey," IEEE Trans. Pattern Analysis and Machine Intelligence, vol. 24, no. 1, Jan. 2002	

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